

## *Elattostachys* (Blume) Radlk. (*Sapindaceae*) in New Caledonia

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**Summary** : A new species of *Elattostachys* (*Sapindaceae*) is described. The proper name for the combined species *E. apetala*/*E. falcata* is given. A key to the *Elattostachys*-species of New Caledonia is given.

**Résumé** : Une espèce nouvelle d'*Elattostachys* (*Sapindaceae*) est décrite. Le nom correct du couple d'espèces *E. apetala* et *E. falcata* est donné. Une clef des espèces d'*Elattostachys* de la Nouvelle-Calédonie est donnée.

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According to RADLKOFER (1933) and GUILLAUMIN (1948) three species of *Elattostachys* occur in New Caledonia, viz. : *E. apetala*, *E. falcata*, and *E. incisa*.

Among material collected on Mt. Dzumac a new species was discovered, which is described below.

A study of Pacific material of *E. apetala* and *E. falcata* proved these species to be synonymous (ADEMA, 1993).

### *Elattostachys dzumacensis* Adema, *sp. nov.* — Fig. 1.

*Arbuscula vel frutex; foliolis lanceolatis acutis, domatiis marsupiiiformibus ciliatis. Discus cristatus. Ovarium glabrum. Capsulae obovoideae ad globosae, endocarpio pilis dispersis patentibus obsito.*

TYPE : *Bernardi 9517*, New Caledonia, Mt. Dzumac, 600 m, 8.7.1965 (holo-, P!; iso-, B!, K!, L!).

Small trees or shrubs, 3 m high. Axial parts densely strigose. Flowering twigs 2-3 mm in diameter. Leaves (1-)4(-6)-jugate; petiole 4-8 cm; rachis (2.5-)6-11.5 cm; both semiterete, strigose to almost glabrous. Leaflets alternate or subopposite, (narrowly) lanceolate, slightly asymmetric, 4.5-10.5 × 1.5-3 cm, index 2.1-4.7, chartaceous, glabrous above and below, midrib below thinly strigose, base cuneate to rounded, apex acute, margin entire, midrib not prominent above, nerves 10-13 per side, 5-15 mm apart, angle to midrib 45°-65°, domatia pocket-like, ciliate, rarely absent; petiolule 2-7 mm, glabrous.

Inflorescences axillary, 3 cm, without branches or basally with 1 branch, in fruit 3-6 cm. Bracts and bracteoles narrowly triangular to deltoid, 0.4-0.5 × 0.2-0.4 mm, outside densely appressed-hairy, ciliate, inside thinly appressed-hairy. Pedicels 3.0 mm. Sepals 5, free, not petaloid, equal, deltoid, 0.6-0.7 × 0.6-0.9 mm, outside appressed-hairy, inside with few hairs at the base. Petals 5, broadly funnel-shaped, 0.9-1.0 × 1.0-1.2 mm, outside with few hairs at the



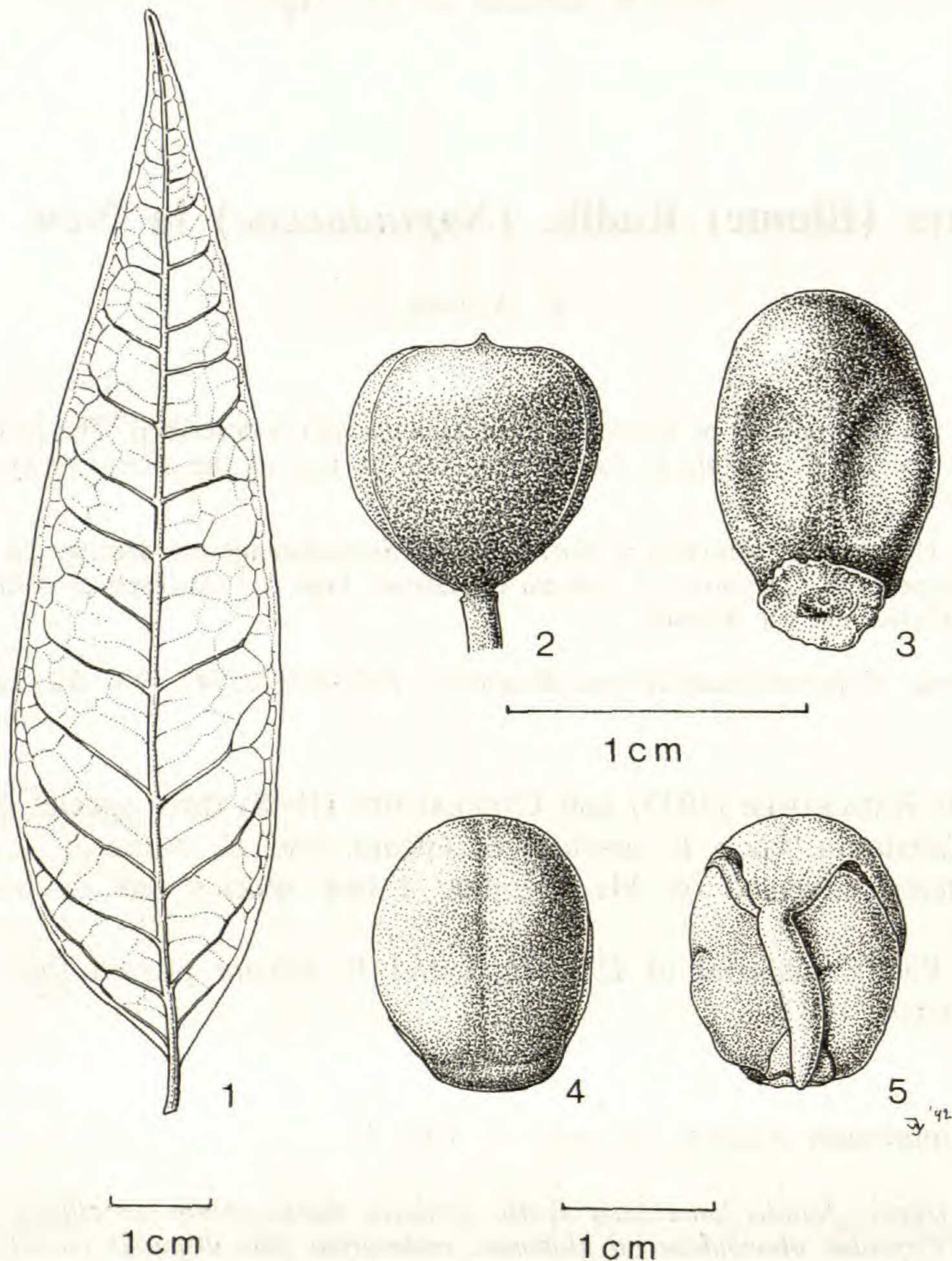


Fig. 1. — *Elattostachys dzumacensis* : 1, leaflet lower side ; 2, fruit ; 3, seed ; 4, embryo abaxial view ; 5, embryo adaxial view. (After Bernardi 9517).

claw, ciliate, inside glabrous, auricles with long hairs. Disc 0.7 mm high, apically with a thin coronate rim, glabrous. Staminodes 8; filaments 1.0 mm, glabrous; anthers 1.4 mm, glabrous. Ovary glabrous outside, style 0.7 mm, stigma 0.6 mm, 3-lined. Fruits obovoid to globular, rounded deltoid in cross section, 18-20 × 12-18 mm, wall 1.5-1.7 mm thick, outside glabrous, inside with scattered patent hairs. Seeds obovoid, 10-12 × 5-7 mm, sarcotesta transversely elliptic or semicircular, reaching up to 1/10; both cotyledons tapering in a long point, folded towards the rootlet.

FIELDNOTES. — ECOLOGICAL NOTES : Mesophyl forests on serpentine, 400-900 m. Fl. : March; fr. : June to November. — ADDITIONAL DESCRIPTIVE NOTES : Leaflets dark glossy green on both sides. Petals white or pink. Anthers clear red. Fruit green.



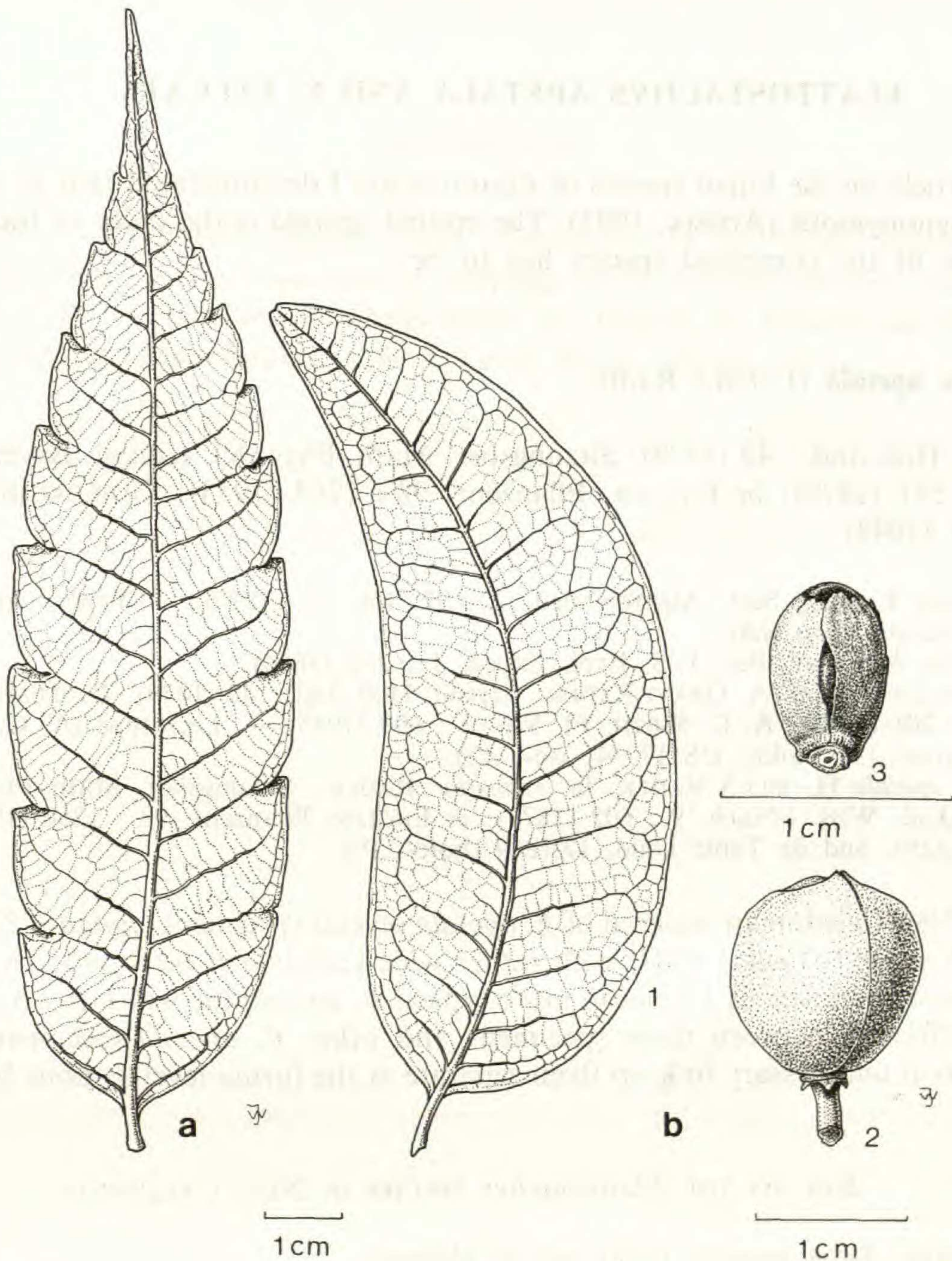


Fig. 2. — a, *Elattostachys incisa* : Leaflet lower side. (After *Mus. Neocal.* 219). — b, *Elattostachys apetala* : 1, Leaflet lower side; 2, fruit; 3, seed. (After *MacKee* 21363).

SPECIMENS EXAMINED : *Bernardi* 9517, Mt. Dzumac (type); *Hürlimann* 1091, vallée de la Dumbéa sur le Mt. Couvélée en allant au Mt. Dzumac; *Jaffré* 649, Route de Dzumac; *MacKee* 4380, Dzumac track above valley of Couvélée river; 19585, sentier du Dzumac; 41446, piste du Dzumac; *Suprin* 1471, Mt. Dzumac; *Veillon* 2152, Mt. Dzumac; *Webster & Hildreth* 14629, ca. Dumbéa, SE ridges of Mts Kouvélee.



## ELATTOSTACHYS APETALA AND E. FALCATA

In an article on the Fijian species of *Elattostachys* I demonstrated that *E. apetala* and *E. falcata* are synonymous (ADEMA, 1993). The epithet *apetala* is the older of the two, and the proper name of the combined species has to be :

### *Elattostachys apetala* (Labill.) Radlk.

Sapind. Holl.-Ind. : 42 (1879); Sitzungsber. Math.-Phys. Kl. Königl. Bayer. Akad. Wiss. Münch. 9 : 531 (1879); in ENGLER, Pflanzenr. 98 : 1267 (1933); GUILLAUMIN, Fl. Nouv.-Caléd. : 201 (1948).

*Cupania apetala* LABILL., Sert. Austro-Caled. 2 : 72, tab. 73 (1825). — Type : *Labillardière s.n.*, New Caledonia (*non vidi*).

*Cupania falcata* A. GRAY, Bot. U.S. Expl. Exped. 1 : 252 (1854).

— *Elattostachys falcata* (A. GRAY) RADLK., Sapind. Holl.-Ind. : 42 (1879); GUILLAUMIN, Fl. Nouv.-Caléd. : 201 (1948); A. C. SMITH, Fl. Viti. 3 : 609 (1985). — Lectotype (A. C. SMITH, 1985) : *U.S. Exped. s.n.* (holo-, US 17734; iso-, A?).

*Elattostachys apetala* (LABILL.) RADLK. fa. *robustior* RADLK., Sitzungsber. Math.-Phys. Kl. Königl. Bayer. Akad. Wiss. Münch. 9 : 602 (1879); in ENGLER, Pflanzenr. 98 : 1268 (1933). — Type : *Balansa 2259*, Sud de Table Unio, 12.1869 (holo-, P!).

Among the New Caledonian material of *E. apetala* several specimens (*Balansa 2259*, *Deplanche 281D*, *MacKee 6483*, *Veillon 4783*) with rather wide leaflets can be found. The width of the leaflets of these specimens is 5-8 cm, in more typical *E. apetala* the width is 2-5 cm. As there is no other difference between these specimens and other *E. apetala*-specimens, the present author thinks it unnecessary to keep them separate at the forma-level as done by RADLKOFER.

### KEY TO THE *Elattostachys* SPECIES IN NEW CALEDONIA

1. Leaflets entire. Twigs strigose. Fruits outside glabrous ..... 2
- 1'. Leaflets grossly dentate to almost lobed (Fig. 2, *a*). Twigs short-tomentose, with scattered longer hairs. Fruits outside thinly hairy ..... *E. incisa* Radlk.
2. Leaflets ovate to lanceolate (Fig. 2, *b 1*), 5.5-27 × 2-8 cm, usually with 1 large saccate domatium, rarely without or with 2 or 3 domatia. Ovary hairy. Fruit wall inside tomentose. Seeds almost totally covered by an arilloid (Fig. 2, *b 3*) ..... *E. apetala*
- 2'. Leaflets (narrowly) lanceolate (Fig. 1, *1*), 4.5-10.5 × 1.5-3 cm, domatia small pocket-like. Ovary glabrous. Fruit wall inside with scattered patent hairs. Seeds only basally covered by a sarco-testa (Fig. 1, *3*) ..... *E. dzumacensis*

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REFERENCES

- ADEMA, F., 1993. — *Elattostachys* (Blume) Radlk. (*Sapindaceae*) in Fiji. *Pacific Science* 47 : 295-297.
- GUILLAUMIN, A., 1948. — *Flore analytique et synoptique de la Nouvelle-Calédonie*. Paris, 369 p.
- RADLKOFER, L., 1933. — *Elattostachys* (Blume) Radlk. In : ENGLER, A., *Pflanzenreich* 98f : 1258-1268.
- SMITH, A. C., 1985. — *Flora Vitiensis Nova* 3. Lawai, Kauai, Hawaii, 758 p.